SMDS DOC ID #

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# **Explanation of Significant Differences**

Del Amo Superfund Site Operable Unit 2 - Waste Pits from the Record of Decision, dated 9/5/97

### **Introduction and Statement of Purpose**

Site Name: Del Amo Facility
Operable Unit: #2 - Waste Pits
Location: Los Angeles, CA

Lead Agency: U.S. Environmental Protection Agency

Support Agency: California Department of Toxic Substances Control (DTSC)

Citation: CERCLA Section 117(c) and NCP Section 300.435(c)(2)(i).

### <u>Circumstances Leading to the Need for an Explanation of Significant Differences (ESD):</u>

In September 1997, the U.S. EPA Region IX signed a Record of Decision ("9/97 ROD") addressing the waste, soil, and subsurface gas contaminated with hazardous substances at the Del Amo Waste Pits Area. The selected remedy addressed potential human exposure to waste pit contaminants at or near the ground surface. The remedy also selected measures to prevent continued migration of hazardous substances from the waste pits and surrounding soil to the groundwater. The remedy, including a RCRA-equivalent cap and a soil vapor extraction ("SVE") system, is described in more detail in the following sections.

Soil Vapor Extraction is a technology that extracts gases from the ground using wells and air pumps. The extracted gases are typically treated to remove the contaminants before being vented to the atmosphere. The 9/97 ROD selected SVE as a component of the remedy, but did not specify the type of vapor treatment technology that would be used to treat the extracted vapors. For purposes of selecting the Applicable or Relevant and Appropriate Requirements ("ARARs"), the 9/97 ROD identified ARARs for a thermal or catalytic oxidizer vapor treatment technology.

During the remedial design process, EPA worked cooperatively with the Responsible Parties, other agencies, and interested members of the public to examine a broad range of vapor treatment technologies in addition to thermal oxidation. Upon completing this examination, EPA decided to evaluate an adsorption technology with on-site regeneration as the vapor treatment technology. The goal of this technology is to remove contaminants from the extracted vapor stream. Extracted vapors would be run through and adhere to the surface of an adsorbent. Contaminants would then be recovered from the adsorbent and transported offsite for reuse. Prior to full scale implementation, a pilot test will be performed. EPA will pursue reuse of the recovered chemicals from the adsorption process as recycled products in industrial processes.

This ESD will become part of the Administrative Record file for the Del Amo site, as specified in the National Contingency Plan ("NCP") 40 C.F.R. Section 300.825(a)(2). The Administrative Record file is available for public review at the following locations:

Torrance Civic Center Library 3301 Torrance Boulevard Torrance, CA (310) 618-5959 Carson Public Library 151 East Carson Street Carson, CA (310) 830-0901

U.S. EPA Superfund Records Center 95 Hawthorne Street, Suite 403S San Francisco, CA (415) 536-2000

For hours of operation, interested parties may call the libraries at the numbers listed.

## Site History, Contamination, and Selected Remedy

The Del Amo Facility was a 280 acre synthetic rubber manufacturing facility that operated from 1943 to 1972. At the southern edge of the facility, a set of six waste disposal pits and four evaporation ponds were created across a five acre area. The 9/97 ROD pertains only to the waste pits and ponds area, as does this ESD.

The waste pits and evaporation pond area (collectively known as the "waste pits area") is currently covered with a RCRA-equivalent cap and the SVE extraction wells are installed, per the 9/97 ROD. Remedial Investigations revealed that one of the evaporation ponds does not have any residual contamination. However, the six pits and three remaining ponds all contain significant quantities of contaminated material. In addition, the soil and groundwater beneath the waste pits material remains heavily contaminated. The majority of the contamination found in and beneath the waste pits and ponds consists of volatile organic compounds ("VOCs") and semi-volatile organic compounds ("SVOCs"). The most significant VOC present is benzene, and the most significant SVOC present is naphthalene. Hydrogen Sulfide is also present. Contamination from the waste pits and ponds has and continues to migrate downward and has contaminated the underlying groundwater. Contamination from the pits and ponds has and continues to diffuse upward towards the ground surface, but in very small amounts that are now captured in the gas collection layer of the cap.

The 9/97 ROD selected the following actions for the waste pits remedy:

- Placement of a RCRA-equivalent cap over the waste pits area and associated soil gas monitoring;
- Installation of surface water controls to prevent ponding of water on the cap and to prevent runoff onto adjacent properties;

- Installation and operation of a soil vapor extraction system (SVE) beneath the waste pit area to protect groundwater and prevent lateral movement of underground gasses;
- Installation of security fencing around the treatment units;
- Implementation of deed restrictions prohibiting future residential use of the waste pits area and prohibiting any future use of the waste pits area that could threaten the integrity of the RCRA-equivalent cap; and
- Long-term operation and maintenance of all of the above and related components.

#### **Basis for the Document**

EPA has decided to further evaluate the adsorption technology for treating the vapors extracted from the SVE system based on community input. ARARs applying to adsorption were not identified at the time of the 9/97 ROD; therefore, this ESD adds the ARARs for the adsorption technology. In this ESD, EPA will not be removing any ARARs that applied solely to the thermal oxidation technology because EPA would consider implementing that technology if the adsorption pilot test determines that adsorption does not meet performance standards.

The Administrative Record file contains two fact sheets that were provided to the public that best explain the process that EPA and its partner groups and agencies undertook to identify and examine alternative treatment technologies. The "Del Amo Site Update" fact sheets are dated November 1999 and December 1999.

## **Description of Significant Differences**

The difference between the 9/97 ROD and the present ESD is that different ARARs apply to the adsorption technology now being considered. The adsorption technology will utilize on-site regeneration and where viable, reuse of the recovered chemicals as recycled products in industrial processes. The supplemental ARARs include California Title 22 hazardous waste regulations that define hazardous wastes, regulate tank systems, miscellaneous units, process vents, equipment leaks, and treatment systems, and specify monitoring requirements. Supplemental ARARs also include California Health and Safety Code regulations for recycled materials, South Coast Air Quality Management District requirements for organic liquid storage, pumps, compressors, valves, and flanges that handle hazardous materials, steam generating equipment, and volatile organic compound emissions. For a detailed list of the supplemental ARARs that apply, see Attachment A. This ESD will ensure that the remedy continues to meet all applicable ARARs ((40 C.F.R. Sections 300(f)(1)(ii)(B)(1) &(2)).

Based on preliminary estimates, it appears that the adsorption treatment technology will cost approximately \$2 million more than the thermal treatment technology. The technology will be designed to achieve the same performance standards as the thermal technology. The amount of contamination to be treated will not change, nor will the area being treated. The length of time that it will take to conduct the cleanup is not expected to change either; however, that determination may change based on pilot testing and the final design process.

### **State DTSC Comments**

The draft ESD was reviewed by the California Department of Toxic Substances Control (DTSC). DTSC agrees with and supports this ESD. DTSC provided comments to EPA which we have incorporated, requesting: 1) wording clarifications, and 2) addition of certain ARARs. DTSC also requested to review the adsorption pilot study results and stressed the importance of continued community involvement in the subsequent phases of this project.

### **Statutory Determinations**

The Selected Remedy attains the mandates of Section 121 of CERCLA, 42 U.S.C. Section 9621, and to the extent practicable, the NCP. Specifically, the remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or are relevant and appropriate to the remedial action, is cost effective, and utilizes permanent solutions and resource recovery technologies to the maximum extent possible.

The remedy also satisfies the statutory preference for treatment as a principal element of the remedy (i.e., reduces the toxicity, mobility or volume of hazardous substances, pollutants, or contaminants as a principal element through treatment).

Because this remedy will result in hazardous substances, pollutants or contaminants remaining on site above levels that allow for unrestricted exposure, a statutory review will be conducted within five years after initiation of remedial action to ensure that the remedy is, or will be, protective of human health and the environment.

## **Public Participation**

On February 24, 1999, the Responsible Parties' design contractor, Parsons Engineering, gave a presentation on the Waste Pits cap and SVE design at a meeting of the Del Amo/Montrose "Partnership." The Partnership was a coalition of representatives from various interested agencies and community groups who met regularly to exchange information and coordinate activities surrounding the Del Amo and Montrose Superfund sites. At the Partnership meeting, representatives from the Del Amo Action Committee (DAAC), a local community group, expressed concerns regarding the vapor treatment technology that was being considered for the SVE system. DAAC requested that the design team investigate alternative treatment technologies to treat the SVE vapors. This began a comprehensive process whereby EPA, DTSC, DAAC, and other interested parties examined alternative treatment technologies. This process eventually led to this ESD.

The alternative treatment technology evaluation process is documented in the Administrative Record for this ESD. The process was one of heavy public involvement. The process itself consisted of a series of steps where technical information was gathered, shared, discussed and analyzed by members of the Partners Remediation Subgroup (including community representatives). The group, operating on a consensus basis, would determine and define the subsequent steps and information needed for identifying appropriate alternative technologies. The process was supported by EPA's technical consultant, CH2M Hill, who provided engineering assessments for the group as needed.

The process utilized a number of different public involvement tools, as follows:

Partnership meetings and conference calls. The Del Amo/Montrose Partnership formed a subgroup, known as the "Remediation Subgroup," to focus on this issue. The Remediation Subgroup consisted of representatives from EPA, DTSC, Agency for Toxic Substances and Disease Registry (ATSDR), California Department of Health Services (CaDHS), South Coast Air Quality Management District (SCAQMD), and Del Amo Action Committee (DAAC). The group held a series of meetings and conference calls where site-specific information was discussed and requirements for further information determined. In addition, the group jointly planned the public meeting/workshops with EPA and provided input and reviews for EPA's fact sheets.

**Fact Sheets.** The general public was provided with information via two fact sheets regarding the treatment technology evaluation process and the information gathered. The fact sheets were also used to advertise the two public meetings.

**Public Meeting/Workshops.** Two public meeting/workshops were held, one at the Holiday Inn near the neighboring community, and one in the neighborhood itself. Information about the technologies examined was provided to the attendees. The first meeting was held on Monday afternoon and evening, November 22, 1999, and the second one was held Saturday morning and afternoon, January 15, 2000. Public input on the technologies was also obtained at these meetings.

**Email Updates.** EPA updated the interested Partnership members on its decision making process through periodic email updates.

Alternative Technologies Forum. EPA, DTSC and the Partnership Remediation Subgroup participated in a forum known as the Alternative Technologies Forum. The forum was organized by a coalition of community groups from around the state, and consisted of a series of meetings where participants gathered and shared information on alternative vapor treatment technologies. The forum did not focus on any particular Superfund site, but sought to learn about technologies so that each participant might then apply their knowledge to a site of interest to them, including the Del Amo waste pits site.

#### Conclusion

This Explanation of Significant Difference for the Del Amo Facility Proposed Superfund site adds additional Applicable or Relevant and Appropriate Requirements to the 9/97 Record of

Decision for the Waste Pits Operable Unit. These supplemental requirements apply or are relevant and appropriate for use of adsorption with on-site regeneration technology at the Waste Pits.

With the approving official's signature below, this ESD is hereby APPROVED as of the signature date.

John Kemmerer, Chief

Superfund Site Clean-up Branch

U.S. Environmental Protection Agency, Region IX

DATE

8/13/02

Description of Supplemental ARARs  Del Amo Waste Pits OU ESD				
AUTHORITY	HORITY DESCRIPTION STATUS COMMENTS			
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Action-Specific ARAF	l }s	***5	· · · · · · · · · · · · · · · · · · ·	
22 CCR § 66261.1, .2, .3, .4, .21, .24	Article 1. General, and Article 3. Characteristics of Hazardous Waste	Applicable	This article defines "wastes" and specifies which wastes are subject to regulation as hazardous waste. These regulations were determined by DTSC's RCRA program to be applicable to the recovered chemicals from the Del Amo adsorption and regeneration system. The regulations state that if the recovered chemicals are re-used in certain industrial processes to make certain products, then the re-used product is exempt from classification as a waste. If the chemicals are not used in such a way, then they remain a waste.  1: Purpose and Scope. (b)(1). 2: Definition of Waste. 3: Definition of Hazardous Waste. (a), (b), (c)(1). 4: Exclusions. (d), (e), (f) (for f(1)(B), substantive requirements only reporting to EPA).  21: Characteristic of Ignitability. (a)(1) - the test has not been run on the waste yet, but it is anticipated that the waste would quality as ignitable. 24: Characteristic of Toxicity.	

Description of Supplemental ARARs  Del Amo Waste Pits OU ESD				
AUTHORITY	DESCRIPTION	STATUS	COMMENTS	
22 CCR § 66264.600-602	Article 16. Miscellaneous Units	Applicable or Relevant & Appropriate as noted in comments section	These regulations are for facilities that transfer, treat, store or dispose of hazardous waste in miscellaneous units. The adsorption and regeneration units would classify as miscellaneous units. These regulations are Relevant & Appropriate for the recycled waste and Applicable for the non-recycled waste.  600: Applicability. (A for non recycled waste, RA for recycled waste). 601: Environmental Performance Standards. (A). 602: Monitoring, Analysis, Inspection, Response, Reporting, and Corrective Action. (A) substantive requirements only, as pertain to 66264.601.	

Description of Supplemental ARARs  Del Amo Waste Pits OU ESD				
AUTHORITY	DESCRIPTION	STATUS	COMMENTS	
22 CCR § 66264.700-708	Article 17. Environmental Monitoring and Response Programs for Air, Soil and Soil-Pore Gas for Permitted Facilities	Relevant & Appropriate	These regulations specify the required environmental monitoring at permitted facilities. The facility would not receive a permit due to the exemption for CERCLA response actions; however, the substantive requirements of certain sections of these regulations are Relevant & Appropriate.  700: Applicability. (a), (d)(1). 701: Required Programs. (a)(air emissions part only. The soil-pore monitoring part is not an ARAR because it would not be practical to install soil-pore monitoring probes around the treatment units. Such probes would be in the cap topsoil, which is only two feet thick above the liners. Installing monitoring probes in the cap's topsoil would jeopardize the cap's underlying liners. Complying with the requirement would pose a greater risk to human health and the environment than not doing it.), (b)(substantive requirements only). 702: Environmental Protection Standard. Substantive requirements only. 703: Hazardous Constituents. Substantive requirements only. 704: Concentration Limits. Substantive requirements only; for air emission only. (a), (b), (c)(2), (d), (e). 705: Monitoring Points. Substantive requirements only; for air emissions only. (a), (b), (c), (d)(1), (e), (f). 707: Compliance Monitoring Program. Substantive requirements only; for air emissions only. 708 Corrective Action Program. Substantive requirements only; for air emissions only.	

Description of Supplemental ARARs  Del Amo Waste Pits OU ESD				
AUTHORITY	DESCRIPTION	STATUS	COMMENTS	
22 CCR § 66264.1030-1036	Article 27. Air Emission Standards for Process Vents	Applicable or Relevant & Appropriate as noted in comments section	These regulations are for facilities that treat, store or dispose of hazardous wastes with organic concentrations of at least 10 ppmw. They apply to process vents associated with, among other things, air or steam stripping operations.  1032: Standards: Process Vents.  1033: Standards: Closed Vent Systems and Control Devices. (A).  (a)(1)(2B), (b), (f)(1)(2D - if the final design calls for equipment of that size and type)(2E - if the final design calls for equipment of that size and type)(2F)(2G - Applicable if Carbon used, RA if Resin used)(3), (g - Applicable if Carbon used, RA if Resin used), (i), (j), (k), (l)(1)(3), (m), (n - Applicable if Carbon used, R/A if Resin used), (o).  1034: Test Methods and Procedures. (A). (a), (b), (c), (d), (e), (f - substantive requirements only).  1035: Recordkeeping Requirements. (A). (a)(1), (b)(2)(3)(4A, B, C6, D, E, F), (c)(1)(2)(3)(4H, I)(5)(6)(7)(8)(9)(10), (d), (e - substantive requirements only), (f).  1036: Reporting Requirements. (A) substantive requirements only, reporting to EPA. (a)(1)(2A, C, D), (b).	

Des	criptio	n of Sup	plemer	ntal ARARs
	Del An	no Waste	Pits C	U ESD

Del Amo Waste Pits OU ESD				
AUTHORITY	DESCRIPTION	STATUS	COMMENTS	
22 CCR § 66264.1050-1065	Article 28. Air Emission Standards for Equipment Leaks	Applicable	These regulations are for systems that handle hazardous waste with organic content of at least 10 ppmw. The system is expected to exceed this content.  1052: Standards: Pumps in Light Liquid Service. (A) if such pumps are part of the final design.  1053: Standards - Compressors. (A) if compressors are part of the final design.  1054: Standards: Pressure Relief Devices in Gas/Vapor Service. (A).  1055: Standards: Sampling Connecting Systems. (A).  1056: Standards: Open-ended Valves or Lines. (A).  1057: Standards: Valves in Gas/Vapor Service or in Light Liquid Service. (A). All parts except (h)(2).  1058: Standards: Pumps and Valves in Heavy Liquid Service, Pressure Relief Devices in Light Liquid or Heavy Liquid Service, and Flanges and Other Connectors. (A) if such devices and conditions are part of the final design.  1059: Standards: Delay of Repair. (A).  1060: Standards: Closed Vent Systems and Control Devices. (A) if such devices are included in the final design. (a), (b)(2)(4).  1061: Alternative Standards for Valves in Gas/Vapor Service or in Light Liquid Services: Percentage of Valves Allowed to Leak. (A).  1062: Alternative Standards for Valves in Gas/Vapor Service or in Light Liquid Services: Skip Period Leak Detection and Repair. (A).  1063: Test Methods and Procedures. (A) substantive requirements only, reporting to EPA.	

	Description of Supplemental ARARs  Del Amo Waste Pits OU ESD				
AUTHORITY	DESCRIPTION	STATUS	COMMENTS		
22 CCR § 66265.400-406	Article 17. Chemical, Physical, and Biological Treatment	Applicable	This Article specifies the regulations for facilities that treat hazardous wastes by chemical, physical, or biological methods. The adsorption system would classify as a physical method.  401: General Operating Requirements. 402: Waste Analysis and Trial Tests. 403: Inspections. 404: Closure. 405: Special Requirements for Ignitable or Reactive Waste. 406: Special Requirements for Incompatible Wastes.		
California Health and Safety Code § 25143.2	Regulations for Recycled Materials	Applicable	These sections provide definitions for recyclable materials, describe exemptions from waste classification for recyclable materials, provide management and handling requirements and reporting requirements. These regulations apply to the chemicals that are recovered from the SVE system's adsorption and regeneration system.  The following sections are the applicable sections: § 25143.2(a), (b), (e), (f), (g).		
South Coast Air Quality Management District	Rule 463. Organic Liquid Storage	Applicable *	This rule provides regulations for above-ground stationary tanks with capacity above 19,815 gallons, used for storing organic liquids. * The parts of this rule specified below would apply if the final design calls for tanks whose capacity exceeds 19,815 gallons. The Del Amo SVE system would utilize tanks to store the chemicals, classified as organic liquids, that are recovered from the adsorption regeneration system.  The applicable parts are: (a) if we use tanks of specified size, (b) if we use devices specified therein - substantive requirements only, (c), (d) if we use such devices, (e) if we use such tank types - substantive requirements only, and (g) substantive requirements only.		

Description of Supplemental ARARs  Del Amo Waste Pits OU ESD				
AUTHORITY DESCRIPTION S			COMMENTS	
South Coast Air Quality Management District	Rule 466. Pumps and Compressors	Applicable	This rule specifies requirements for pumps and compressors that handle reactive organic compounds. It is applicable if the final design calls for pumps or compressors to handle the recovered chemicals, which are virtually pure VOCs (specifically BTEX compounds). Substantive requirements only would be applicable.	
South Coast Air Quality Management District	Rule 466.1. Valves and Flanges	Applicable	This rule specifies requirements for valves and flanges that work with reactive organic compounds. This rule is mostly Applicable, with certain parts Relevant & Appropriate, as noted below.  Parts (a), (b), (c), (e), (g), (h), and (j) are Applicable. In part (h), the substantive requirements only are Applicable.  Parts (d) and (f) are Relevant & Appropriate, the substantive requirements only. These parts apply specifically to chemical plants and oil refineries, which the system is not, but the requirements are Relevant and Appropriate for use on the project.	
South Coast Air Quality Management District	Rule 467. Pressure Release Devices	Relevant & Appropriate	This rule specifies requirements for pressure relief devices on equipment handling VOCs at specific types of facilities. The site does not qualify as one of the specified types of facilities for which this rule applies. However, the requirements would be Relevant and Appropriate for the Del Amo site if the final design calls for pressure relief devices that handle VOCs.  All parts are Relevant and Appropriate for the site with the substantive	

Applicable

South Coast Air

District

Quality Management

Rule 476. Steam

Generating Equipment

requirements only for parts (d)(3) and (e)(1) (for those parts, the

This rule sets nitrogen oxides emission limits for steam generating equipment whose maximum heat input rate exceeds 50 million BTU per

hour. This rule would be applicable if the final design calls for equipment

of that size and type. The adsorption regeneration system may use

activities would be approved by EPA).

steam to regenerate the absorbent.

Description of Supplemental ARARs  Del Amo Waste Pits OU ESD				
AUTHORITY	DESCRIPTION	STATUS	COMMENTS	
South Coast Air Quality Management District	Rule 1146. Emissions of Oxides of Nitrogen from Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters.	Applicable	This rule sets nitrogen oxides emission limits for boilers, steam generators, and process heaters whose heat input capacity exceeds 5 million BTU per hour. This rule would be Applicable if the final design calls for equipment of that size and type. The adsorption regeneration system may use steam to regenerate the absorbent.  Parts (a), (b), (c), (d) would be Applicable, with only the substantive requirements within parts (c) and (d).	
South Coast Air Quality Management District	Rule 1146.1. Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters.	Applicable	This rule sets nitrogen oxides emission limits for boilers, steam generators, and process heaters whose heat input capacity exceeds 2 million BTU per hour but is less than 5 million BTU per hour. This rule would be Applicable if the final design calls for equipment of that size and type. The adsorption regeneration system may use steam to regenerate the absorbent. Only the substantive requirements of this rule would be Applicable.	
South Coast Air Quality Management District	Rule 1146.2. Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers.	Applicable	This rule sets nitrogen oxides emission limits for boilers, steam generators, and process heaters whose heat input capacity exceeds 75,000 BTU per hour but is less than 2 million BTU per hour. This rule would be Applicable if the final design calls for equipment of that size and type. The adsorption regeneration system may use steam to regenerate the absorbent.  Parts (a), (b), (c)(3) would be Applicable. Parts (c)(4) and (C)(5) would be Relevant and Appropriate because they have rule effective dates in 2005 and 2006 for different size units, but the rules are Relevant and Appropriate to follow in our situation.	

Description of Supplemental ARARs  Del Amo Waste Pits OU ESD				
AUTHORITY	DESCRIPTION	STATUS	COMMENTS	
South Coast Air Quality Management District	Rule 1173. Fugitive Emissions of Volatile Organic Compounds	Relevant & Appropriate	This rule controls volatile organic compounds leaks from valves, fittings, pumps, and other equipment at specific types of facilities. The site does not qualify as one of the specified types of facilities for which this rule applies. However, the requirements are Relevant and Appropriate for the Del Amo site.  Specifically, all parts except parts (i) and (j) would be Relevant & Appropriate for the site, the substantive requirements only for parts (c), (d), (e), (f), and (g).	
South Coast Air Quality Management District	Rule 1176. VOC Emissions from Wastewater Systems	Relevant & Appropriate	This rule controls volatile organic compound emissions from wastewater systems located at specific types of facilities. The site does not qualify as one of the specified types of facilities for which this rule applies. However, the requirements are Relevant and Appropriate for the Del Amo site.  Specifically, parts (a), (b), (c), (d)(1), (e), (f)(1C)(3), (g)(1)(3)(4), (h), (i) would be Relevant and Appropriate for the site, with the substantive requirements only for parts (d)(1), (e), (f)(1C)(3), (g)(1)(3), and (i).	

U.S.C. - United States Code CFR - Code of Federal Regulations CCR - California Code of Regulations